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May 27, 1960

*Rec'd E/B 1530  
6/1/60*

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Dear Sir:

This letter report summarizes the research performed under Task Order No. RR during April, 1960.

During the meeting with you on April 5, an extended burning experiment of nearly 7 continuous hours was conducted with the Model 2 incinerator. The average burning rate resulting from intermittent feeding of a variety of papers was 134 pounds per hour. After the burning of a total of 900 pounds of paper, the residue in the unit consisted of about 4-1/2 pounds of ash (some of which was lightly fused) and about two handfuls of charred paper. During all of the feeding periods, the mass of burning paper inside the unit was loosened with a poker 41 times. During the final burnout period after feeding was stopped, the residue was poked 6 times. The use of an oversize temporary blower with reserve pressure capacity, and the liberal amount of poking gave burning rates in excess of the 80 to 130 pound per hour range initially anticipated. The normal amounts of fly ash and small pieces of illegible black char were visible in the stack gases.

Four single-charge experiments were also run by loading various types of paper initially up to the level of the door sill; burning, without poking, until the fire was out; and then re-igniting the remains of the unburned paper, when necessary, and burning out. The following burning rates and amounts of residues were obtained:

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<u>Type of Paper</u>	<u>Burning Rate, lb per hr</u>	<u>Amount of Residue</u>
Pages from telephone books	15	1 pint of char (re-ignited)
Legal-size form tablets	82	1/2 pint of char (re-ignited)
File cards, 3 by 8 inches	61	1 pint of ash and char (not re-ignited)
Folded IBM sheets	19	1/2 pint of char and 3 small pieces of paper (re-ignited)

These experiments showed that the Model 2 incinerator can be operated unattended on single charges of paper if the higher burning rates are not required.

A No. 22 Volume Fan was received from the Buffalo Forge Company. An extension proposal for further effort to incorporate this blower-motor assembly into the lower part of the incinerator housing and to evaluate the incinerator performance was prepared and submitted to you. (Authorization to proceed with this additional effort was received in a letter dated April 29, 1960.)

The total appropriation on this Task Order is now \$15,338. Of this amount the unexpended balance was approximately \$4,750, as of May 1, 1960.

Sincerely,

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ABW:mlm

In Duplicate

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